

CHAPTER HI DESIGN OF CLOSED OR BOX JIGS

In the preceding chapter, the subject of the design of open drill jigs has been dealt with. In the present chapter it is proposed to outline the development of the design of closed or box jigs.

Assume that the holes in a piece of work, as shown in Fig. 1, are to be drilled. Holes *A* are drilled straight through the work, while holes *B* and *C* are so-called "blind holes"⁷ drilled into the work from the opposite sides. As these holes must not be drilled through, it is evident that the work must be drilled from two sides, and the guiding bushings for the two blind holes must be put in opposite sides of the jig. The simplest form of jig for this work is shown in Fig. 2. The piece of work *D* is located between the two plates *E*, which form the jig, and which, if the jig is small, are made of machine steel and casehardened. If the jig is large these plates are made of cast iron. The work *D* is simply located by the outlines of the plates, which are made to the same dimensions, as regards width, as the work itself. The plates are held in position in relation to each other by the guiding dowel pins *F*. These pins are driven into the lower plate and have a sliding fit in the upper one. In some cases, blocks or lugs on one plate would be used to fit into a slot in the other plate instead of pins. These minor changes, of course, depend upon the nature of the work, the principle involved being that some means must be provided to prevent the two plates from shifting in relation to each other while drilling. The whole device is finally held together by clamps of suitable form. The holes *A* may be drilled from either side of the jig, as they pass clear through the work, and the guides for the drills for these holes may, therefore, be placed in either plate. Opposite the bushings in either plate a hole is drilled in the other plate